

Farmhouse Energy Efficiency

Introduction

On many small farms, energy used in the farmhouse can be more than that used in the farm business. Older farmhouses are often expensive to manage, with long hot water pipe runs and large high rooms which soak up energy for heating and lighting. This note covers some key issues in farmhouse energy saving.

Heating

- Make sure central heating thermostats are not set too high. Reducing the thermostat setting by 1 degree will cut running costs by around 10%.
- Check the level of loft insulation, the current recommendation is for 200mm. Increasing the level from 25mm to 200mm will give savings of between £50 and £100/annum depending on fuel type and the size of the property.



- 20 % of heat loss can be avoided by draught proofing windows and doors. Great care must be taken to ensure that vents for fires, etc. are not sealed.
- Keeping doors and windows closed as much as practicable is very important, otherwise the heating system will be constantly working to heat up incoming air.
- Have heating boilers serviced regularly by a qualified service engineer. When installing a new boiler take note of the primary efficiency rating of the boiler and consider using a condensing boiler.
- Use modern controls. Electronic thermostats will give closer temperature control and lower running costs. Individual room thermostats or thermostatic radiator valves allow areas of

infrequent use to be kept slightly cooler thus reducing costs. Modern time switches can provide more on/off operations and allow you to provide specific control times for each day of the week.

Water Heating

- Consider providing local water heating systems in rooms which are a long way from the central heating boiler. The heat lost due to pipe runs can be very significant, especially where the water use is intermittent.
- Ensure that all tanks and pipes are well lagged. Changing the tank insulation from 25mm to 80mm can save between £30 and £55 depending on the fuel used to heat the water. The insulation jacket will cost around £10.
- Fossil fuel fired boilers become very inefficient in the summer time when they are used just to heat up the water. It's worth considering using an immersion heater during this period particularly if an Economy 7 electricity tariff is used.
- If water is heated mainly by electricity, use a cheap night rate electricity tariff such as Economy 7. Heating 210 litres (50 gals) of water per day on a cheap night rate tariff instead of using the normal day rate can save up to £200 per year. It can be worth investing in a larger tank if a significant amount of heating occurs during the daytime. It's also worth checking the timeswitch to ensure that it is synchronised to E7, just one hour out will add £40 a year to your electricity bill.

Washing Machines

- Wash with a full load, as this reduces the amount of times the machine is used.
- Use half load, low temperature, and minimum wash as often as practicable.
- Hot fill machines can be cheaper to run if the water has been heated with a boiler or on a cheap night rate electricity tariff.
- The savings between high and low spin speeds are negligible. Using high spin speeds is preferential if the items are to be tumble dried.



Tumble Drying

- Tumble dryers are relatively expensive to run. If hanging the clothes out to dry is not an option it may be worth considering an Economy 7 electricity tariff to dry the clothes on the cheap night rate.
- Always spin clothes prior to drying.
- Avoid overdrying.

Refrigeration

- Choose a refrigerator with a 'low energy use' rating.
- Install the fridge/freezer away from heat sources and out of direct sunlight.
- Keep the doors closed as much as possible.
- Allow air to circulate round the back of the appliance.
- Check that the fridge operates at the correct temperature - about 5°C . The star rating on a freezer will indicate the operating settings.
- Chest freezers are generally more energy efficient than upright freezers, as the cold air is retained more effectively when the appliance is opened.

Lighting

- Install compact fluorescents to replace tungsten bulbs (not suitable for dimming). They use about a fifth of the energy of an equivalent tungsten bulb.
- Install dimmers where lighting requirements vary. Dimmers are also useful in prolonging the life of bulbs.
- Switch lights off when the room is not in use. Note however that frequent on/off operation of fluorescents can shorten tube life. Generally speaking they should not be switched on/off more than 8 times a day. Compact fluorescents are even less tolerant. They should not be used with infra red sensors in a security situation.